

Appln. No. 10/807,088

Attorney Docket No. 10543-069

**II. Remarks**

Reconsideration and re-examination of this application in view of the above amendments and the following remarks is herein requested. Claims 1-3, 5, 7, 9, 11, and 18-30 were pending in the application, claims 4, 6, 8, 10, 12-17 have been cancelled, and claims 18-30 have been withdrawn by the Examiner. By this paper, claim 25 has been amended. Support for the above amendments may be found in Applicants' specification as originally filed.

**Restriction**

The Examiner has maintained his restriction requirement between the following inventions under 35 U.S.C. § 121:

- I. Claims 1-3, 5, 7, 9, 11, drawn to a system for estimating body states of a vehicle comprising, classified in class 701/4, 38; and
- II. Claims 18-30, drawn to a system for estimating body states of a vehicle, comprising, classified in class 702/141, 142, 145, 147, 158.

Pursuant to 37 CFR § 1.142(b) and MPEP § 821.03, the Examiner has elected and examined Invention (I) above. Applicants note that the Examiner did not state whether the Restriction requirement was made final, but because the entire office action was made final, the Applicants believe that the restriction requirement must also be final.

Applicants respectfully traversed the restriction requirement in their last response. Since then, the Examiner has stated in the Final Office Action (mailed 01/22/2009) that claim 25 appears to be directed toward an invention in which one of a roll angle, a roll rate, and a yaw rate have been generated twice. Applicants have

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currently amended claim 25 to add the word "the" to make clear that the model generates the same at least one of a roll angle, a roll rate, and a yaw rate that was referred to in claim 1. Applicants otherwise stand on their reasons given in the last response as to why the Examiner has not shown Inventions (I) and (II) to be independent or distinct. Furthermore, the Applicants believe that the Examiner has not still not articulated any reasons as to why there would be a serious burden to examine inventions (I) and (II). MPEP § 808.02 states that the Examiner must explain why there is a serious burden. Applicants do not believe that quoting or citing to MPEP §808.02 fulfills the Examiner's burden to explain the why there is a serious burden. For at least these reasons, Applicants respectfully request that the Examiner withdraw the restriction requirement and examine Inventions (I) and (II) now, rejoining claims 18-30 in this application.

Rejections Under 35 U.S.C. § 103

Claims 1-3, 5, 7, 9 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pub. No. 2005/0149240 to Tseng et al. (Tseng), in view of U.S. Pat. No. 6,732,033 issued to LaPlante et al. (LaPlante). This rejection is respectfully traversed.

Applicants respectfully assert that Tseng and LaPlante, even in combination, fail to teach each and every element of the invention as recited in currently amended claim 1. For example, independent claim 1, from which claims 2, 3, 5, 7, 9, and 11 depend, includes a filter configured to process at least one set of linear acceleration signals, that it receives from linear accelerometers measuring in the same direction, into at least one of a roll rate, a roll angle, and a yaw rate.

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Tseng fails to teach, suggest, or disclose a filter configured to process a set of linear acceleration signals, that it receives from linear accelerometers measuring in the same direction, into at least one of a roll rate, a roll angle, and a yaw rate. The Examiner has stated on Page 4, lines 16-18 of the Final Office Action (dated 01/22/2009) that Tseng teaches "the first and second linear accelerometers each being configured to measure the acceleration (sec 0025 to 0028, 0046, 0047) of the vehicle in a first direction...." Tseng, however, does not teach first and second linear accelerometers both being configured to measure acceleration in a first direction. To the contrary, Tseng's linear accelerometers each measure acceleration in different directions; in other words, Tseng does not teach a first linear acceleration and a second linear acceleration both configured to measure acceleration in a first direction. In order to process linear acceleration signals alone into one of a roll rate, a roll angle, and a yaw rate, a filter or processor requires at least two signals measured in the same direction from accelerometers that are spaced apart from each other. Since only a single accelerometer in Tseng measures linear acceleration in a first direction, it would be impossible for the filter to process the single linear acceleration signal in a given direction into one of a roll angle, a roll rate, or a yaw rate. Regardless, claim 1 requires that a set of linear acceleration signals in the same direction be processed into one of a roll angle, a roll rate, and a yaw rate. As one having ordinary skill in the art would understand, one cannot calculate a roll angle, a roll rate, or a yaw rate from a single linear acceleration signal in a given direction. Tseng determines at least one of a roll rate, a roll angle, and a yaw rate from angular rate sensors, which is typical in the art.

Applicants respectfully assert that LaPlante also lacks any teaching, suggestion, or disclosure of a filter configured to process a set of linear acceleration

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signals into at least one of a roll rate, a roll angle, and a yaw rate. Although LaPlante discloses first and second accelerometers 20, 22 configured to measure acceleration of the sprung mass (SM) and unsprung mass (USM) in a z-direction, there is no teaching of any filter that is configured to receive signals from the accelerometers of the SM and USM and process these signals into at least one of a roll rate, a roll angle, and a yaw rate.

In view of the foregoing, Applicants respectfully submit that even if Tseng and LaPlante were properly combinable, Tseng and LaPlante in combination fail to teach each and every element of the present invention, as set forth in claim 1. Again, more particularly, an element not taught, suggested, or disclosed in either Tseng or LaPlante is a filter configured to process a set of linear acceleration signals, the set being two linear acceleration signals in the same direction, into at least one of a roll angle, a roll rate, and a yaw rate.

The Examiner has stated, on Page 9, lines 11-14, of the Final Office Action (mailed 01/22/2009), that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tseng as taught by LaPlante et al for the purpose of accurately measuring acceleration of vehicle in a given direction in case one of the accelerometers in the first or second direction gets bad, or as a back up when one accelerometer in a direction fails. The claimed invention of claims 1-3, 5, 7, 9, and 11, however, requires that both accelerometers be in use and in working order, because the claims require that the estimator process at least one of the sets of linear acceleration signals into at least one of a roll rate, a roll angle, and a yaw rate, the set including two measured acceleration signals in the same direction. There is no teaching in the cited art to use two linear acceleration signals in the same direction for processing into one of a roll rate, a roll angle, and a yaw rate.

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Accordingly, Applicants respectfully submit that independent claim 1, and claims 2, 3, 5, 7, 9, and 11 dependent therefrom, are in condition for allowance, for at least these reasons. Therefore, reconsideration and withdrawal of the rejection is respectfully requested.

Conclusion

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot, and that pending claims 1-3, 5, 7, 9, 11, and 18-30 as amended, are patentable. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections, as well as the restriction requirement. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned at (734) 302-6022.

Respectfully submitted,

  
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March 23, 2009

Date

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